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AUTHOR Devlin, Lawrence E.
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ABSTRACT

Based on analysis of differences among four groups of 40 males each, this study investigated the relationship between recent (within the past five years) adult education participation and occupational mobility. A 119 item questionnaire covering demographic background, early education, occupational history, amount of continuing education, attitudes toward current occupational status, perception of one's occupation, and the influence of continuing education experiences on life activities, was given to frequent and infrequent participants (FPs and IPs) in a program offered through a combined high school/junior college, and to nonparticipants aware and unaware (NPAs and NPUs) of the program. These were among major findings and conclusions: the four groups differed consistently, with participants highest, and NPUs lowest, in income, educational background, and father's occupational level; most educational activities in each group entailed occupational subject matter; frequent participation was positively related to upward mobility; and FPs differed from other groups in upward moves made even before participation in adult education. (Five tables and 22 references are included. This Ph. D. thesis will be available from Department of Photoduplication, University of Chicago Library, Swift Hall, Chicago, Ill. 60601) (LY)

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THE UNIVERSITY OF CHICAGO

PARTICIPATION IN ADULT EDUCATION AND OCCUPATIONAL MOBILITY

ABSTRACT

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LAURENCE E. DEVLIN

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COMMITTEE: W. S. GRIFFITH, CHAIRMAN

C. A. ANDERSON

W. E. HENRY

Introduction

Occupational concerns are a major impetus for the efforts of adults to improve their knowledge, skills, and sensitivities through participation in educational activities. Of the 28.5 million adult learners identified by Johnstone and Rivera in 1965, 9 million, the largest single group, were studying job related subjects.[1] "Over one-half of all the participants recalled that it was some occupational contingency which first led them to enrol in further studies."[2] Adult learners reported that their studies were effective both in helping them learn more about their present job and in helping them prepare for a new job or occupation.

If individuals participate in adult education for occupational reasons, and if large numbers of adult students consider their learning experiences to be effective, it seems likely that these learning experiences will have some demonstrable effects on rates or patterns of individual occupational mobility. In the aggregate, individual rates and patterns of mobility should affect the national occupational structure. This, however, is conjecture. The research reported herein was an attempt to provide an empirical basis from which it would be possible to weigh conjecture against evidence to determine more precisely the nature of the relationship between participation in adult education and occupational mobility.

Background of the Problem

Numerous studies have shown that there is a strong, positive relationship between the educational level of an individual and his placement

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[1]John W. C. Johnstone and Ramon Rivera, Volunteers for Learning (Chicago: Aldine Publishing Co., 1965), p. 49.

[2]Ibid., p. 138.

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in the occupational hierarchy.[1] The most recent and exhaustive data come from the work of Blau and Duncan.[2] These researchers posit a basic model of social stratification consisting of five variables.[3] Of the five, the highest correlations were between educational level and occupational level, (.596), and between educational level and occupational level of the first job held by an individual, (.541). "A man's social origins exert a considerable influence on his chances of occupational success, but his own training and early experience exert a more profound influence on his success chances."[4] Educational achievement is the major process which intervenes to lessen the effects of ascribed status on individual occupational advancement and "the chances of upward mobility are directly related to education."[5]

Although research shows a strong relationship between educational and occupational levels, it should be noted that education is not the only influence in mobility. Anderson suggests that "ability (whether genetic or not) and associated motivation varying independently of schooling play a powerful role in generating mobility."[6] In Blau and Duncan's data, education, social origin, and career beginnings together account for only

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[1]For a review of research, see R. Perrucci, "Education, Stratification and Mobility," in On Education: Sociological Perspectives, ed. by D. A. Hansen and J. E. Gerstl (New York: John Wiley and Sons, 1967), pp. 105-155.

[2]P. M. Blau and O. D. Duncan, The American Occupational Structure (New York: John Wiley and Sons, 1967).

[3]The five variables are father's educational attainment, respondent's educational attainment, status of the respondent's first job, status of respondent's current occupation, and father's occupational status.

[4]Blau and Duncan, The American Occupational Structure, p. 402.

[5]Ibid., p. 156.

[6]C. A. Anderson, "A Skeptical Note on the Relation of Vertical Mobility to Education," American Journal of Sociology, XLVI (May, 1961), 569.

one half of the variance in occupational achievement. Thus, there is some validity to claims that education should not be overemphasized in relation to mobility. Education remains, however, "the most powerful measurable determinant of occupational status."[1]

While there is a considerable body of research dealing with the relationship between formal education and placement in the occupational structure, the relationship of adult education to the occupational structure has not been widely studied. It has long been recognized that a relationship does exist, however. The authors of one of the earliest empirical investigations of occupational mobility noted participation in night school and part-time school by members of their sample and commented that "the place of both types (formal and informal) of educational training in the life of our communities is sufficiently important to deserve intensive investigation."[2] The first Handbook of Adult Education in the United States included three chapters which described programs of adult education in relation to occupational conditions while subsequent Handbooks contain similar references.

Although there is little direct empirical evidence about the relationship between participation in adult education and occupational mobility, three studies do provide data beyond that of a purely descriptive nature. Warner and Abegglen studied occupational mobility among 8,000 American business and industrial elite. They concluded that "all categories of these men continue in appreciable numbers to equip themselves through adult education with the special knowledge necessary for further advancement."[3]

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[1]C. Jencks, "Social Stratification and Higher Education," Harvard Educational Review, XXXVIII (Spring, 1968), 282.

[2]P. E. Davidson and H. D. Anderson, Occupational Mobility in an American Community (Stanford: Stanford University Press, 1937), p. 174.

[3]W. L. Warner and J. C. Abegglen, Occupational Mobility in American Business and Industry (Minneapolis: University of Minnesota Press, 1955), p. 111.

In a more recent study of occupational mobility, Stern and Johnson examined factors associated with blue to white collar job mobility.[1] In a purposive sample of 452 males who had shifted into white collar jobs, 314 had attended school on a part-time basis at some point in their lives. Over 50 per cent of the sample had participated in part-time schooling prior to shifting while 39 per cent were educationally active during the job period which immediately preceded the shift to a white collar position. Both the researchers and their subjects concluded that occupational mobility was facilitated by participation in adult education.

Further evidence of the relationship between participation in adult education and occupational mobility comes from the national survey of adult education conducted by Johnstone and Rivera. Seventy-one per cent of the blue collar subjects and 62 per cent of the white collar subjects stated that they benefited "a great deal" -- the highest possible rating.[2] Johnstone and Rivera constructed an "effectiveness index" based on the proportion of individuals who had specific purposes which were satisfied by participation in adult education courses. Such courses were rated as 90 per cent effective when taken for reasons of job advancement and 57 per cent effective when taken to prepare for a new job.[3] In a special study of young adults between the ages of seventeen and twenty-four, it was found that 81 per cent of those who aspired to occupational positions above the level of their fathers had participated in some form of adult education since leaving school.

In summary, it can be said that there is no central body of literature which treates the relationship between participation in adult education and occupational mobility. Efforts have been made to document the

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[1]J. L. Stern and D. B. Johnson, Blue to White Collar Job Mobility (Madison: University of Wisconsin, Industrial Relations Research Institute, 1968).

[2]Johnstone and Rivera, Volunteers for Learning, p. 160.

[3]Ibid., p. 161.

contribution of informal educational institutions to mobility[1], however, there is a paucity of data about the educational pursuits of adults and upward movement within the occupational structure.

The Problem

Contemporary American adult education is strongly influenced by the demand for job related subjects and courses. Several investigators suggest that participation in adult education is associated with occupational mobility and participants themselves attribute some occupational success to adult studies. However, it is not clear whether participation in adult education is related to the increasing complexity of modern occupations or whether it is a strategy for improving one's occupational position. There are a number of sociological studies of occupational mobility but concern with certain variables and an apparent lack of interest in others has resulted in an uneven treatment of this subject. Most research has been limited to study of the effects of pre-employment education on movement in the occupational structure. While many writers allude to a possible influence of adult education on occupational mobility, the nature of this relationship is empirically vague.

Theoretical Considerations

Previous research has established that individuals rise and fall in the occupational structure both within and between generations. The chances of upward mobility between generations are directly related to the amount of formal education achieved, and formal education has a higher correlation with occupational status than any other variable considered basic to occupational achievement.

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[1]For two such attempts, see H. F. Clark and H. S. Sloan, Classrooms in the Factories (New York: Institute of Research, Fairleigh Dickinson University, 1958) and H. F. Clark and H. S. Sloan, Classrooms on Main Street (New York: Institute for Instructional Improvement, Columbia University, 1966).

However, occupational achievement is affected by a number of factors in addition to formal education. Intelligence, race, motivation, and sibling order are examples of such factors. Current research suggests that occupational status is not fixed throughout life. Individuals often have work experience at a number of different occupational levels, and as they grow older, the influence of ascriptive variables such as father's occupation is attenuated. Occupational change can be effected by individual volition and there is tentative evidence to suggest that rates of educational participation among adults are highest immediately prior to job changes. Researchers are generally agreed that "there is a significant amount of status mobility after age 25 to 34 or even 35 to 44."[1]

Existing research does not, however, provide the basis for a clear theoretical explanation of the relationship between education and occupational mobility, although at least three explanations for this relationship can be inferred. First, education may provide an individual with the opportunity to acquire knowledge, skills, and values necessary for occupational movement. Second, participation in education may be part of the general social behavior of individuals who are strongly motivated toward occupational mobility. Finally, employers may place a high value on completion of different levels of education regardless of the knowledge, skills, and values learned at each of these levels in the belief that such completion is a predictive measure of desirable work behaviors to be employed on the job.

Since formal education appears to be associated with occupational mobility through the factors described above, adult education might also be expected to be associated with mobility.

Methodology

Design

The inquiry was based on an analysis of occupational mobility differences among four groups of adult males. Of the four, two were composed of subjects who had participated in a program of adult education offered through a combined high-school/junior college, and two were

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[1]Blau and Duncan, The American Occupational Structure, p. 187.

composed of subjects who had not participated in the program. Groups were matched by age to control for the influence of this variable on mobility. Each group was defined as follows:

Frequent Participants[1]

Subjects were Frequent Participants if they had completed an average of two or more courses a year through the adult education program over a five year period or if they had completed a total of ten or more courses since the time of first registration in the program.

Infrequent Participants

Subjects were Infrequent Participants if they had completed an average of less than two courses per year through the adult education program over a five year period.

Non-Participants-Aware

Subjects were Non-Participants-Aware if they were aware of the adult education program but had not participated.

Non-Participants-Unaware

Subjects were Non-Participants-Unaware if they were unaware of the adult education program.

Instrumentation

The instrument employed during the study was a 119-item questionnaire. Ninety-five questions were structured and twenty-four were open-ended. Questions were grouped around seven dimensions considered important to an explanation of the relationship between participation in adult education and occupational mobility. These dimensions were the demographic characteristics of subjects, the quantitative profile of all continuing education experiences, early educational experiences, occupational history, attitudes to current occupational status, perception of selected characteristics of occupations, and evaluation of the influence of continuing education experiences in life activities. The selection and phrasing of particular questions was quided by previous research on

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[1]In the remaining discussion, group names will be abbreviated as follows: Frequent Participants, F.P.; Infrequent Participants, I.P.; Non-Participants-Aware, N.P.A.; and Non-Participants-Unaware, N.P.U.

occupational mobility, the national survey of adult education conducted by Johnstone and Rivera, and the judgment of the writer in consultation with a committee of academic advisors.

The chief measure of occupational mobility was Duncan's Socioeconomic Index for All Occupations. This is a scale which contains values ranging from 0-96 for 446 detailed occupations in the U. S. Census. Scores on the scale are composites of the educational level, average income, and prestige level of a given occupation! These scores have been shown to have a high degree of temporal stability, despite changing occupational conditions, and represent a widely shared conception of the occupational structure.

Pre-Test

The instrument was pre-tested during eight interviews with adults enrolled in an adult education program conducted by a voluntary community agency located in the central business district of Chicago. Construct validity was evaluated by examining the subjects' responses to each pre-test question relative to the intent of the question to measure a particular variable. If it was necessary to explain or illustrate the type of answer being sought, the construct validity of the question was examined by the researcher and the question was re-worded or discarded.

Reliability and objectivity of the instrument were also evaluated during the pre-test. A major factor contributing to both reliability and objectivity of the instrument was the use of structured questions for ninety-five of 119 items. Questions measuring the educational level of subjects' parents, adult learning activities, and the name and number of jobs previously held by subjects were repeated at different times in the pre-test interviews to determine the reliability of responses. Although no quantitative measures of reliability were secured, the consistency of the responses indicated to the researcher that reliable data were being collected.

Sample Selection

Frequent Participants and I.P.'s were identified on the basis of their participation in the Morton High School-College Adult Education Program located in Cicero, Illinois, a predominately working class suburb of Chicago. The program consists of twenty-three curricular areas and includes technical, vocational, and liberal education courses as well as courses for adults wishing cultural development or new leisure time activities. Approximately 8,000 permanent record cards containing a list of courses completed and the date of first registration in the program were examined. One hundred subjects were identified as F.P.'s and 2,526 as I.P.'s. A simple random sample was drawn to determine the forty subjects required for each group.

A cluster sample technique was used to identify households from which N.P.A.'s and N.P.U.'s were selected. Three census tracts were chosen at random from the twenty-two tracts which comprise the geographical area served by the adult education program. Within each tract, three city blocks were also chosen at random. Choice of tracts and blocks was made on the basis of probabilities proportional to size; that is, the number of blocks in each tract and the number of households in each block was considered in the sampling technique. Each block finally chosen by this method constituted the cluster from which N.P.A.'s and N.P.U.'s were drawn.

The identification of appropriate subjects in each household was based on their response to a screening question concerning knowledge of opportunities for adult education. If an individual identified the adult education program in which F.P.'s and I.P.'s had participated but had not participated himself, he was classed as an N.P.A. If an individual could not identify the adult education program, he was classed as N.P.U.

Data Collection

Data collection was by interview. Frequent Participants and I.P.'s were interviewed by the researcher while data were collected from N.P.A.'s and N.P.U.'s by four professional interviewers who had been specially

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trained by the writer. Interviews were usually conducted in the subjects' homes and were approximately two hours in length. Data were collected over a ten-month period.

Methods of Statistical Analysis

Data were coded on I.B.M. cards and subjected to several different statistical tests including correlation tests, analysis of variance, summary statistics and chi square analysis.

Findings and Conclusions

Demographic Characteristics

As the study design controlled for age and as the research was conducted in a geographical area known to contain a large percentage of working class families, it was expected that groups would be demographically similar. This expectation was confirmed by the findings. There were no significant differences among groups on the variables of family income, age, and fathers' occupational status. A typical subject had a family income of $10,000 to $12,000 a year, was in his early thirties, and had a father who was a skilled blue collar worker. The level of education of N.P.U.'s was significantly lower than that of subjects in the other three groups. ($p < .01$) All F.P.'s and I.P.'s had attained some college while six N.P.A.'s and fourteen N.P.U.'s had not completed grade twelve. However, this finding reflects the method of sample selection since F.P.'s and I.P.'s achieved some college by participating in the adult education program from which they were identified. It was concluded that the design of the study did result in the composition of groups which were demographically similar.

Adult Learning Activities

The mean number of adult learning activities in which subjects had participated during the five year period preceding the time of data collection is reported in Table 1. To establish a measure of adult learning common to all four groups, activities taken by F.P.'s and I.P.'s as part of the Morton College Adult Education Program were excluded from data

reported in Table 1 since N.P.A.'s and N.P.U.'s by definition did not participate in the program. A one way analysis of variance test showed that differences among groups were significant.

TABLE 1.—Mean number of adult learning activities during five years preceding data collection

F.P.	I.P.	N.P.A.	N.P.U.
4.72	4.3	1.1	.85
(189)	(172)	(44)	(33)

F=31.38 ($p < .01$)

Most of the activities in each group involved study of subject matter classified as occupational and business and industry sponsored 40 per cent of all activities. An occupational influence was also evident in the purposes for which adult studies were pursued although there was no significant difference among groups. Employers were aware of 80 per cent of the activities of each group and assisted with 60 per cent. Differences in awareness and assistance were non-significant.

The outcomes of adult learning activities are shown in Table 2. If the first four outcomes are classified as "occupational" and the remaining outcomes classified as "non-occupational", over one-half of the activities in three groups had occupationally related outcomes while among F.P.'s, 47 per cent of the activities had occupational outcomes. Within each group, more activities contributed to qualifying for a promotion than to preparing for a different job or occupation.

It was concluded that the groups differed not so much in kind as in degree. The adult studies of subjects in all groups were strongly influenced by occupational concerns. However, F.P.'s and I.P.'s had participated in a larger number of activities than N.P.A.'s and N.P.U.'s and the higher incidence of participation was the major substantive distinction among groups.

TABLE 2.--Outcome of activity

Outcome	F.P.		I.P.		N.P.A.		N.P.U.	
	%	N	%	N	%	N	%	N
helped do job held at the time better	15.8	(30)	29.0	(50)	34.0	(15)	27.2	(9)
helped qualify for a promotion	12.6	(24)	9.8	(17)	11.3	(5)	15.1	(5)
helped prepare for a different job or occupation	5.2	(10)	6.9	(12)	2.2	(1)	6.0	(2)
helped meet a requirement set by employer	14.2	(27)	9.8	(17)	6.8	(3)	12.1	(4)
helped spend spare time more enjoyably	8.4	(16)	4.0	(7)	4.5	(2)	9.0	(3)
helped meet new and interesting people	5.2	(10)	1.1	(2)	6.8	(3)	..	..
helped get away from the daily routine	2.6	(5)	.5	(1)	2.2	(1)	..	..
helped become a better informed person	15.3	(29)	14.5	(25)	13.6	(6)	30.3	(10)
other	20.1	(38)	23.8	(41)	18.1	(8)	..	..
Total	100	(189)	100	(172)	100	(44)	100	(33)

$\chi^2 = 32.97$

Results Applied to the Hypotheses

Major Hypothesis: Participation in adult education is positively related to occupational mobility

The rationale for this hypothesis was that since level of education is a strong correlate of occupational status in an industrialized society, and since formal education has been shown to be a major determinant of occupational mobility, participation in adult education might also be expected to have an influence on mobility and occupational status.

The major hypothesis was supported by the results of one way analysis of variance tests on several different variables. As an index of total mobility, F.P.'s and I.P.'s were found to have held more jobs than N.P.A.'s and N.P.U.'s since entry into the labor market ($F=10.6$, $p < .01$). There was no difference in the socioeconomic level at which subjects in all four groups began their occupational careers. (Table 3).

TABLE 3.--Mean Socioeconomic status level of first job

F.P.	I.P.	N.P.A.	N.P.U.
31.8	34.3	41.8	33.6

$F=1.55$

However, at the time of data collection, there was a positive, monotonic relationship between the average socioeconomic level of jobs held and participation in adult education as shown by Table 4.

TABLE 4.--Mean socioeconomic status level of current job

F.P.	I.P.	N.P.A.	N.P.U.
60.2	56.7	49.5	39.5

$F=8.5$, $p < .01$

Frequent Participants had jobs of the highest level while I.P.'s held jobs of the second highest level. Non-Participants-Aware ranked third and N.P.U.'s last. Differences between F.P.'s and other groups were significant at the .01 level. When the distance between the first job and the current job was measured, a similar finding was recorded. (Table 5)

TABLE 5.--Mean status difference between first job and current job

F.P.	I.P.	N.P.A.	N.P.U.
28.2	22.4	7.7	5.8

$F=14.8$, $p < .01$

Those subjects who had participated most frequently in adult education had moved the farthest upward from their first jobs. On the basis of these findings, it was concluded that the major hypothesis was supported.

Sub-Hypothesis One: Prior to participation in adult education, there will be no difference between the number of upward and downward occupational moves made by Frequent Participants and subjects who are Infrequent Participants, Non-Participants-Aware and Non-Participants-Unaware.

The rationale for this sub-hypothesis was that as all four groups in the study were similar in age and social class background by design, occupational movement prior to participation in adult education by Frequent Participants would be a function of factors whose effects were randomly distributed throughout the groups. Since variables known to cause systematic differences in mobility were controlled, occupational movement in all four groups was expected to be equal until the time of participation by Frequent Participants.

Sub-hypothesis one was only partially supported. There was a significant difference among groups in the number of upward moves made prior to participation in adult education by F.P.'s. ($F=5.4$, $p < .01$) Infrequent Participants made the greatest number of upward moves (44) while F.P.'s made the second greatest number (38). Non-Participants-Unaware made 24

and N.P.A.'s, 16. Group differences were also significant when the average magnitude of upward moves was measured. ($F=2.66$, $p < .05$) However, there was no significant difference among groups in either the number or magnitude of downward moves made prior to participation. Non-Participants-Unaware made the most downward moves (20). Frequent Participants made 17, I.P.'s 16, and N.P.A.'s 12. On the basis of findings about both upward and downward moves, it was concluded that sub-hypothesis one was conditionally supported.

Sub-Hypothesis Two: During participation in adult education, Frequent Participants will make more upward and fewer downward occupational moves than Infrequent Participants, Non-Participants-Aware, and Non-Participants-Unaware.

The rationale for this sub-hypothesis was that the influence of adult education on individual occupational mobility would begin to manifest itself during the period of participation. It was recognized that the normal work career of individuals is characterized by upward and downward movement to jobs of different status, however it was believed that the influence of adult education would result in more upward and fewer downward moves for Frequent Participants than for the other three groups.

Sub-hypothesis two was not supported at a statistically acceptable level of confidence. Frequent Participants made more upward moves than any other group, as predicted, (8). The average magnitude of upward moves was also greater than any other group. Infrequent Participants made 5 upward moves, N.P.A.'s 4, and N.P.U.'s 2. However, substantive trends in the data were not supported by statistically significant differences among groups. The number and magnitude of downward moves were also non-significant, the number of moves being: N.P.A.'s 7, I.P.'s 5, F.P.'s 4, and N.P.U.'s 3. Thus, sub-hypothesis two was not supported, even though the data showed the predicted trends.

Sub-Hypothesis Three: Following participation in adult education, Frequent Participants will make more upward and fewer downward occupational moves than Infrequent Participants, Non-Participants-Aware, and Non-Participants-Unaware.

The rationale for this sub-hypothesis was similar to that of the previous one. Since it was alleged that participation in adult education influenced mobility, it was expected that the careers of Frequent Participants would show more upward and less downward movement following participation than the careers of subjects in other groups.

Sub-hypothesis three was not supported at a statistically acceptable level of confidence. Following participation in adult education, F.P.'s made more upward moves than any other group (20). Infrequent Participants made 11, N.P.U.'s 11, and N.P.A.'s 6. While the "F" ratio of 2.02 approached the value required for significance at the .05 level (2.6), it was not large enough to conclude that differences were significant. The average magnitude of upward moves made by F.P.'s was also greater than any other group but differences were not significant. A similar finding was recorded for the number and magnitude of downward moves, the number being N.P.A.'s 2, F.P.'s 4, I.P.'s 5, and N.P.U.'s 6. Although data showed some predicted trends, it was concluded that sub-hypothesis three was not supported.

Sub-Hypothesis Four: The correlation between the occupational level of the first permanent job and the current job will be lower for Frequent Participants than for Infrequent Participants, Non-Participants-Aware, and Non-Participants-Unaware.

As participation in adult education was expected to influence occupational mobility, the status difference between the first job held by subjects and their current job was expected to be greatest for those subjects who were Frequent Participants in adult education. Thus, it was expected that the statistical measure of association between the level of the first job and the level of the current job would be lower for Frequent Participants than for subjects in the other three groups.

Sub-hypothesis four was supported as shown by data in Table 6.

TABLE 6.--Correlation between first job level and current job level

F.P.	.418
I.P.	.477
N.P.A.	.783
N.P.U.	.710

The correlations between first job and current job level in F.P. and I.P. groups were significantly different from those in the N.P.A. and N.P.U. groups at the .05 level. The lowest correlation was in the F.P. groups, as predicted.

Discussion of Results

The Major Hypothesis

While it was concluded that participation in adult education was positively related to occupational mobility in the sample studied, it should be noted that the process by which individuals rise in the occupational structure is a complex one involving the interaction of many variables. Sociological research has consistently identified educational achievement as a major influence on mobility. Ascriptive variables such as father's education and occupation have also been considered to play an important role in mobility. Yet in a recent study conducted on a national basis, education, social origin, and career beginnings together accounted for only one-half of the variance in occupational achievement.[1]

Thus, a conclusion that the major hypothesis of the study was supported is made in the knowledge that participation in adult education is not the only influence on adult mobility. Other variables such as motivation, intelligence, race, level of occupational aspiration, place of residence, and labor market conditions acting along or in concert with adult learning behavior may be as important or more important to mobility than participation in adult education.

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[1]Blau and Duncan, The American Occupational Structure, p. 133.

The Sub-Hypotheses

Although only sub-hypothesis four was unconditionally supported by the findings of this study, the results of testing the sub-hypotheses are not totally at variance with an earlier conclusion that participation in adult education was positively related to occupational mobility, among the subjects. In no sub-hypothesis did the data show a pattern of mobility contrary to that which was predicted. Rather, lack of support for specific sub-hypotheses was more a function of lack of statistical significance than the absence of systematic trends. This observation can be criticized for circularity, of course, since to some degree, the lack of statistical significance is a result of the absence of systematic trends. However, the fact that the data exhibited substantive patterns in accordance with those predicted would appear to be an important finding.

The previous discussion has emphasized statistical influences when examining departures from hypothesized trends. However, several other explanations are tenable. If it can be assumed that occupational mobility is a function of behavioral as well as cognitive skill, then it is possible that participation in adult education may have a differential outcome on mobility, depending on the type of skills which an individual possesses at the time he begins to participate. In other words, if an individual lacks behavioral skills desired in the market place, the acquisition of cognitive knowledge by participation in adult education may never offer mobility. The results of testing the sub-hypotheses may thus reflect a substantive dimension of the relationship between participation in adult education and occupational mobility if F.P.'s, in particular, were subject to the conditions discussed.

An alternate explanation of the departure from hypothesized results is that variables other than participation in adult education were influential on the process of occupational mobility as it occurred in the sample. While some control was established over variables known to be associated with mobility such as age and social class background, there was no control or direct measure of motivation, occupational aspirations, or similar kinds of variables. Research on the role of such variables in mobility has only recently developed and initial evidence suggests

that they are important.[1] However, measuring instruments and conceptual structures to integrate psychological variables with mobility studies are still in their formative stages. As it is recognized that adult mobility is influenced by a number of factors, one of which is participation in adult education, it is possible that unmeasured variables accounted for the departure from results expected under the first three sub-hypotheses.

Other Findings

National research on social stratification and occupational mobility has focussed on the influence of five factors: the educational level of a subject's father, the occupational level of a subject's father, the educational level of a subject, the first job status of a subject, and the occupational status of the current job held by a subject. Nationally, the strongest correlate of current job status is level of education (.596).

In the present research, current occupational status was strongly related to the number of learning activities in which a subject had participated as an adult. Among F.P.'s, the correlation between these variables was .541 while among I.P.'s, the correlation was .455. The correlation among N.P.A.'s and N.P.U.'s was .414 and .198 respectively. Group differences in the size of the correlation varied positively with participation in adult education which suggests a relationship between participation and occupational achievement. In F.P. and I.P. groups, current occupational status was more highly correlated with number of learning experiences than with level of formal education.

Because the present research was conducted with a small sample, using limited statistical techniques, it is recognized that extrapolations of the findings to a larger population must be made with caution. However, data on the relationship between the number of adult learning activities in which subjects had participated and their occupational achievement suggest a tentative conclusion that study of adult learning behavior may provide important knowledge about the process of social stratification.

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[1]W. H. Sewell, A. O. Haller, and A. Portes, "The Educational and Early Occupational Attainment Process," American Sociological Review, XXXIV (February, 1969), 73-91.

Implications of the Inquiry

Implications for Sociology

The results of this inquiry had implications for several areas of interest to sociologists. Existing models of social stratification emphasize factors whose influence occurs early in the life span. However, a measure of participation in adult education would seem to be an important variable if the process of social stratification is to be adequately conceptualized and mobility understood. A related question of interest is the process by which talent is allocated in society. Sociologists have argued that many educational systems are dysfunctional since they neither develop the latent talent available to them nor organize themselves so that their products are matched to jobs on the basis of ability.[1] Since there is a close relationship among the reasons why adults participate, their choice of subject matter, and their occupational goals, participation may mitigate the effects of dysfunctional educational systems by assisting the allocating of individuals to jobs on the basis of ability. An understanding of the norms which regulate the behavior of adults in the educational setting and the values that legitimize the institutionalization of adult education might enrich the knowledge of traditional areas of sociological concern such as concensus, alienation achievement, leadership, and power. Finally, it is widely acknowledged that in a modern society where behavior patterns developed at an early age are often anachronistic at adulthood, there must be some social mechanisms to act as re-socializing agents for the purpose of system stability or ordered change. If adult education has a re-socializing role, it is of considerable significance to contemporary sociology since the question of how social systems maintain functional stability in the face of change has been the genesis for much theory and research.

Implications for the Occupational Structure

Economic life is based on the rational distribution of resources to production tasks. The most difficult jobs, in theory, require the greatest skill and are usually the most highly rewarded. Yet the functional requirements of jobs can only be grossly approximated by choosing

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[1] John Porter, "The Future of Upward Mobility," American Sociological Review, XXXIII (February, 1968), pp. 5-19.

incumbants with a given level of formal education. In some cases, level of education may even be negatively associated with performance.[1] A high level of performance which has been achieved in part, by participation in adult education may be taken as evidence that an individual can perform acceptably in a job of higher status, even though he lacks the level of formal education normally required for entrance to that job. Since much adult education conducted by business and industry is directed toward those already employed by a firm, it is likely that the effect of participation in the aggregate is to assist the allocation of talent to jobs on the basis of ability. As such, adult education contributes to the strains toward rationality within the occupational structure and the industrial enterprise.

Implications for Adult Education

"By 1975, the adult work force (25 years old and over) will include as many college graduates as those with eight years of schooling or less."[2] Since level of education is one of the strongest correlates of participation in adult education, it is clear that administrators of adult education programs will be faced with growing numbers of individuals who are participating for occupational reasons. Adults may participate to "keep up" with changing job requirements, to get ahead in the occupational world, or to avoid being pushed down in the occupational structure. Time spent in defining the particular occupational purposes for participation and choosing subject matter areas and learning experiences appropriate to each type of purpose would hold great potential for the rational construction of programs allowing each learner to fulfill his personal goals. The results of the present study suggested that participation in adult education can play an important role in assisting individuals to rise in the occupational structure. The professional adult educator might recognize that there is a need to examine the functional relationship between the

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[1]Ivar E. Berg, "Education and Work," in Manpower Strategy for the Metropolis, ed. by Eli Ginzburg (New York: Columbia University Press, 1968), pp. 128-131.

[2]U.S. Department of Labor, Bureau of Labor Statistics, Education of Adult Workers in 1975, by Denis F. Johnston, Special Labor Force Report No. 95 (Washington, D. C.: Government Printing Office, 1968), p. 10.

skills acquired in adult education programs and the skills required for acceptable job performance, especially in relation to certification policies. Certifying that adults are occupationally competent without examining their behavior in the work situation may create false expectations for performance. Certification policies developed by professional adult educators should assist both employers and employees to identify what skills are necessary for a particular job and whether these skills have been acquired by participation in adult education.

Limitations

The external validity of results may have been affected by the small sample size. Further, the subjects came from family backgrounds which were predominately blue collar and thus the results of the research may not be applicable to individuals from other socioeconomic backgrounds. Because of the absence of previous research on the problem investigated, the study was conceptualized as an extensive examination in an attempt to identify variables which would help to interpret the results. The instrumentation reflected this purpose. It is possible that study of fewer variables would have provided a more thorough understanding of hypothesized relationships. A related limitation is that no direct measure of variables such as motivation or level of occupational aspiration was included in the study. Finally, the use of interviews and multiple interviewers to collect data suggests a general problem of validity and reliability. While efforts were made to meet this problem by choosing experienced interviewers who were specially trained for the study, these provisions may not have been successful with the consequent effect on the validity and reliability of results.

Suggestions for Further Research

It would be valuable to examine the extent of adult mobility on a national basis in relation to participation in adult education. The increasing pace of technological change makes it important to understand how adults react to changing occupational conditions and whether participation in adult education has a national influence on the quality of the labor supply. The present study was directed towards an examination of individual mobility. Research on a national basis is needed to identify

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the collective effects of participation.

Careful attention might well be directed toward matters of definition and measurement. Past research on occupational mobility has used gross measures which often reveal only general patterns of movement. Variables associated with adult life are seldom quantified. The results of the present study suggest that investigations which do not include a measure of adult learning may result in a faulty conception of how mobility occurs.

There is also a need for research which investigates the consequences of occupational mobility that occurs during adulthood. Adult mobility may have an effect on such factors as friendship patterns, marital relations, and social behaviors. An understanding of the consequences of mobility might provide evidence which could increase knowledge of differential rates of participation in adult education by various occupational and social classes.

An area of research which would be of particular interest to those engaged in the development of adult education as a field of knowledge would be an examination of factors which influence the extent of participation in adult education and the degree of persistence involved in this participation. Although all subjects in the present study were from the same general socioeconomic background, there was considerable variation in both extent and persistence during adult studies. Additional research is needed to explain this variation.

An effort has been made to identify variables which would help to explain why participation in adult education is positively related to occupational mobility, however, the development of a conceptual framework to adequately explain this relationship must await further research. One fruitful area of research for this purpose lies in the relationship between knowledge, skills, and attitudes, learned during participation in adult education to actual job performance. Because requirements for specific jobs are generally not clearly defined, it is possible that advancement in the occupational structure depends as much on affective characteristics as on cognitive ones. Thus, behavior changes resulting from participation in adult education may be as important to advancement as knowledge and skills acquired during participation. Further research is needed to specify why participation in adult education influences occupational mobility.